

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 03/102905 A1(51) International Patent Classification⁷: **G09G 3/20,**
G02F 1/133

(21) International Application Number: PCT/IB03/02234

(22) International Filing Date: 21 May 2003 (21.05.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0212566.4 31 May 2002 (31.05.2002) GB(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

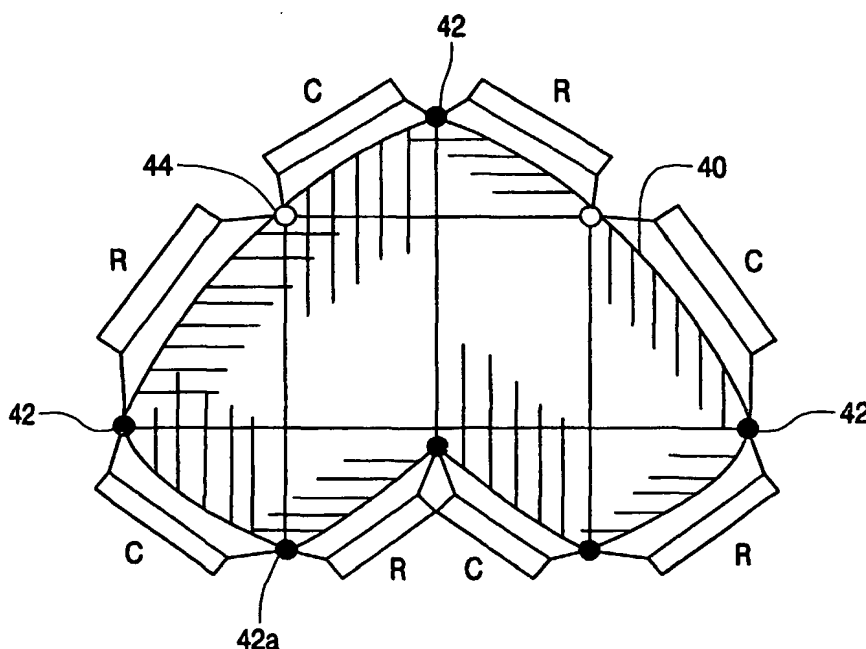
(75) Inventor/Applicant (for US only): **BATTERSBY, Stephen, J.** [GB/GB]; c/o Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).(74) Agent: **SHARROCK, Daniel, J.**; Philips Intellectual Property & Standards, Cross Oak Lane, Redhill, Surrey RH1 5HA (GB).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NON RECTANGULAR DISPLAY DEVICE



(57) Abstract: A display device has an array 40 of pixels and row and column driver circuitry comprising row driver circuit portions R and column driver circuit portions C, each pixel being addressed by a row driver circuit portion R and a column driver circuit portion C which connect to respective row and column conductor lines. The array of pixels has a non-rectangular outer shape, and the device comprises at least three row driver circuit portions R and at least three column driver circuit portions C disposed alternately around the outer periphery of the array. This arrangement enables row and column drivers to be divided into portions which are arranged in such a way that addressing can be provided for complicated display shapes.

INTERNATIONAL SEARCH REPORT

Internat application No

PCT/IB 03/02234

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G09G3/20 G02F1/133

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G09G G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 53883 A (SERAPHIM DONALD P ;KRUSIUS J PETER (US); SKINNER DEAN W (US); GREE) 26 July 2001 (2001-07-26)	1-8, 11-16
Y	abstract; figures 9A-9K page 26, line 30 -page 31, line 34	9,10
A	US 5 907 313 A (KATOH KENICHI ET AL) 25 May 1999 (1999-05-25)	1,5,11
Y	abstract column 8, line 30 -column 9, line 5 figure 9	9,10
A	US 5 598 180 A (SUZUKI KOUHEI ET AL) 28 January 1997 (1997-01-28)	1,11
Y	abstract; figure 1	9,10
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

16 October 2003

Date of mailing of the international search report

24/10/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Wolff, L

INTERNATIONAL SEARCH REPORT

Intern: Application No

PCT/IB 03/02234

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 270 693 A (HANKINS JR DECEASED FREDERICK ET AL) 14 December 1993 (1993-12-14) abstract the whole document</p>	1-16

INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/IB 03/02234

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0153883	A	26-07-2001	EP 1194810 A1	10-04-2002
			JP 2003520994 T	08-07-2003
			WO 0153883 A1	26-07-2001
US 5907313	A	25-05-1999	JP 9127482 A	16-05-1997
US 5598180	A	28-01-1997	DE 4306988 A1	23-09-1993
			JP 6012035 A	21-01-1994
			KR 9609586 B1	20-07-1996
US 5270693	A	14-12-1993	WO 9304460 A1	04-03-1993